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To: Dr. James T. Kroll, Air Force Office of Scientific Research

From: Prof. Min-Chang Lee

Date: February 8, 1996

Subject: Final Report for "Studies of Enhanced Radar Backscatter" (F49620-92-J-0297)

The AFOSR grant F49629-92-J-0297 has been used to support U.S. graduate students for research on ionospheric plasma disturbances and effects on radio wave propagation. The accomplished graduate research work is briefly described as follows:

Michael J. Starks has completed his Master of Science (M.S.) thesis under my supervision for the analysis of data recorded at Arecibo, Puerto Rico and the development of a theory to interpret the Arecibo experimental results. His work was presented in a paper at the 1996 National Radio Science meeting in Boulder, Colorado. Attached are the abstract of this paper and a copy of his M.S. Thesis entitled "Gravity wave seeding of Perkins' instability and HF-amplified spread F over Arecibo, Puerto Rico".

Another two U.S. graduate students, Virginia Ewell and Jane Vladimer have been partially supported by this grant that expired on December 31, 1995. The continuing work of these two graduate students will be supported by another AFOSR grant F49620-94-1-0365.